

US Pat Appln Nr 10/043,284

Docket 630-24US (CIP)

## REMARKS,

as submitted in response to (Final) O/A dated 20 April 2004

1. This response follows an interview at the PTO on 04 May 2004, between the undersigned and the examiner, Mr Cozart.
2. No amendments to the claims or specification are proposed at this time.
3. First, we explain the following point. In our previous response, we emphasised that one distinctive difference between the present invention and the Leitch reference, which made the Leitch reference irrelevant as a teaching reference with respect to claims 2,14, was that Leitch did not show coined-lock-beading. However, that was just one difference. The fact that we pressed that distinction does not mean we regarded Leitch as otherwise relevant. In fact, also, we did not, and do not, regard Leitch as being relevant to claims 2,14, on the grounds that Leitch is not in the field of endeavour of a designer/manufacturer of automotive seatframes.
4. We now consider the Dudash v Loper '103 rejection of claims 2,14.

*"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavour or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned."* In re Oetiker 24 USPQ(2) 1443

The field of endeavour with which the present invention is concerned is the design and manufacture of seatframes for automotive seats. The field of endeavour with which the cited

reference Loper is concerned may be described as the design and manufacture of Vee-belt pulleys. The PTO does not state, in the O/A, if it is alleging that Loper is in the field of our endeavour, so we presume not. Such an allegation would require careful explanation, and the PTO has not provided that.

Therefore, we take it the PTO must be alleging that Loper "is reasonably pertinent to the particular problem" with which we were concerned. But still, the PTO does not state what that "particular problem" is. We feel it should not be left to us, in a Final O/A, to speculate as to what "particular problem" the PTO might have in mind.

5. We feel the skilled person would not find it obvious to substitute one of the features shown in Loper in place of the corresponding feature shown in Dudash.

The PTO notes that Dudash shows the use of upper and lower ring-beads, un-coined, as a technique for attaching a headrest-mounting-tube into the top-rail of a seatframe. We accept that. The PTO notes that Loper shows the use of coined-lock-beading, as a technique for securing the two sides of a Vee-pulley together. We will accept that, too. Where we differ is in the following. The PTO position is that *therefore, it would have been obvious to provide Loper's coined-lock-beading in the seatframe of Dudash, in light of the teachings of Loper, in order to provide the necessary swaging means to effectively swage the head rest tube of Dudash to the seat frame.* In other words, the PTO view is that, because Loper shows coined-lock-beading, therefore it would have been obvious to provide coined-lock-beading in Dudash.

We cannot see anything in the PTO's position beyond: because it is possible to use Loper's coined-lock-beading in Dudash's seatframe, therefore it was obvious to do so



We point out, with respect, that this does not constitute an explanation as to how/why the skilled designer of seatframes would regard Loper as being in any way relevant to his problems. Given that the PTO position is that the seatframe designers would obviously turn to Loper as offering a solution to their problems, what exactly are the problems that Loper

would obviously solve? Again, we feel that the PTO position amounts to nothing more than this: that because it is possible to combine A with B, therefore it must have been obvious to combine A with B. The precedents are clear that that is not enough to establish a *prima facie* case of obviousness.

And why would the seatframe designer turn to Loper – instead of to Leitch, for example? We can only think that the PTO now cites Loper, instead of Leitch, simply because Loper shows coined-lock-beading. Of course, the fact that coined-lock-beading is known is not enough to prove it was obvious to substitute it in Dudash. There are hundreds of possible ways of attaching a pair of headrest tubes to the top-rail of a seatframe, so there has to be a reason why the skilled person would obviously single out Loper, from the rest, as the teaching reference. The PTO gives no reason for that. As far as we are concerned, it was an act of invention to select Loper's coined-lock-beading, from the hundreds of available known techniques, as the answer to the headrest/seatframe problem.

We ask that the 35 USC 103 rejection of claim 1 be reconsidered and withdrawn, on the grounds that there is no *prima facie* case of obviousness here. For our part, we can think of no reason why the skilled designer of seatframes would obviously consider Loper as being in our field of endeavour. (On the other hand, Dudash is within our field of endeavour.)

We emphasise that we ourselves, in our capacity as persons skilled in the art of seatframe design, really cannot, in all reasonableness, think why the seatframe designer would obviously think of turning to Loper. In this regard, we feel we are speaking as members of the community of skilled seatframe designers as a whole. That being so, the PTO, in order to establish a *prima facie* case of obviousness, has a duty to provide a reasoned explanation as to why the seatframe designer would think of turning to Loper. We would accept that no such explanation is needed in the case of the Dudash reference, but we say it is needed in the case of Loper. In the absence of such explanation, we feel the PTO has not established a *prima facie* case.

6. Nor can we ourselves think of any reason why the skilled designers and

...manufacturers of seatframes would single out Loper as being "reasonably pertinent to their particular problems".

Loper describes the problems his techniques are aimed at solving. For example, Loper is concerned with burnishing the inside cylindrical face of his hub-element 13, as that will help the rotating pulley to spin freely and smoothly on a spindle. That is good in a pulley, but why/how would the seatframe designer think it was obviously relevant to seatframes?

Similarly, Loper is concerned with ensuring that the Vee-form of the pulley is accurately concentric with the hub axis. Again, that is good in a pulley, but how is it relevant to seatframes?

We feel that the dishing of the side-pieces of the pulley is the main significant thing about Loper's disclosure. But there is nothing in our design that could be regarded as in any way equivalent to dishing the side-pieces of a pulley. So, the PTO position requires that the seatframe designer would find it obvious to ignore this highly-significant aspect of Loper. We have to question how/why the seatframe designer would know to ignore this significant aspect of Loper's teachings.

Loper teaches that it is advantageous to make the two side-pieces of a pulley in the form of dishes; you assemble the two sides together with the middles of the two dishes spaced apart; then you squeeze the middles together, forcing the dishes to become less dished; then you lock-bead the hub element to the two side pieces, thereby locking-in this highly-strained condition. The stored-energy locked into the assembly, by Loper's technique, means the

beading in seatframes have little relevance to the pulley situation.

(a) For example, coined-lock-beading gives very robust resistance to the joint's tending to work loose due to tipping or rocking. Of course, it is always good that a joint should be tight -- but the key aspect here concerns what happens if the joint should work loose. In the case of a seatframe, if the headrest tube should work loose, the integrity of the joint could not be trusted under emergency loading. Plus, no-one would know prior to the emergency that the integrity of the headrest had been compromised.

By contrast, in the case of a pulley, if the joint worked loose the pulley might wobble a little, but surely the pulley would continue to function. And even if the pulley joint were going to fail, surely it would give plenty of indication that something was wrong, long before failure actually occurred.

(b) Also, another example of why the skilled person would regard lock-beading in a pulley as being irrelevant to the seatframe situation, arises from the fact that the strain energy locked into the joint, due to the dishing of the side-pieces, is surely very high. We feel the skilled person would assume that, in fact, locking in the huge strain energy due to dishing the side-pieces would surely ensure that the joint never did work loose, even if the pulley joint were not lock-beaded.

That is to say, if Loper's pulley joint were lightly-beaded (as opposed to being a coined or lock-beaded joint, as Loper may be regarded as disclosing, Loper's pulley joint still would not tend to work loose, because the dished sides already lock so much strain energy into the joint. That is to say, whether Loper's joint is coined-lock-beaded or not makes hardly any difference to a Loper's pulley; whereas coined-lock-beading makes a huge difference to the integrity of a seatframe joint. Dudash discloses what may be termed a lightly-beaded seatframe joint in this context, and we note the comparison in joint integrity between Dudash and our own design.

We sum up the point as follows. Our coined-lock-beaded headrest joint has abiding

tightness, because of the large strain energy locked into the joint by the coining operation. The Dudash joint does not have abiding tightness, because no strain energy is locked into the joint. The coined-lock-beaded pulley joint of Loper has abiding tightness, but not really because of the strain energy locked into the joint by the coining operation, but rather because of the strain energy locked into the joint by dishing the side-pieces of the pulley.

(c) Also, another example of why the skilled person would regard lock-beading in a pulley as being irrelevant to the seatframe situation, arises from the fact that coined-lock-beading means that the headrest tube can be positioned or located with good accuracy in the top-rail. This is important in the case of seatframes, given that headrest tubes are mounted in pairs, but has no relevance in the case of pulleys. A pulley can have only one axis.

(d) If the seatframe designer did think of turning to Loper, to find a solution to the tightness integrity problem of Dudash, it would surely be in the hope of adapting the dished side-pieces to the seatframe headrest situation. Dishing the side-pieces locks strain energy into the joint, which the seatframe expert might regard as being significant -- just as Loper obviously regards dishing the side-pieces as being significant.

But then, having realised they could not adapt the dished-sidepiece thing, surely the expert would then move on. We can see nothing that would obviously prompt the designer of seatframes to take the lock-beading aspect. Suppose the designer of seatframes said: "Having read Loper, I realise I cannot use the dished side-pieces thing in a headrest tube, but now I do realise that I can use the coined lock-beading thing". That is not the statement of a person who has just made an

We ask that the '103 rejection of claims 2,14 be reconsidered, and withdrawn.

9. We now consider the 35 USC 103 rejection based on substituting the coined-lock-beading shown in JP 5-123783 in place of the upper and lower ring-beads as shown by Dudash.

First, we do not accept that JP 5-123783 shows coined-lock-beading, as distinct from the kind of un-coined ring-beads as shown in Dudash. JP 5-123783 makes no mention of a final very heavy crushing of the stack of bead surfaces. However, the punch tools as shown in JP 5-123783 are not bottomed-out, and so would permit such a crushing force to be exerted on the ring-beads. For the sake of argument, we will take it that JP 5-123783 does show coined-lock-beading.

In the O/A, the '103 rejection based on JP 5-123783 is couched in the same terms as the '103 rejection based on Loper, i.e., as we understand it, that because JP 5-123783 (like Loper) shows coined-lock-beading, therefore it would have been obvious to provide coined-lock-beading in Dudash. Again, we feel this is not enough to demonstrate that the skilled designer of seatframes would have found it obvious to turn to calking prior art, in the hopes of finding useful technology -- for the same reasons as discussed above in relation to Loper.

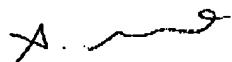
We note that JP 5-123783 is concerned with calking (i.e sealing). Of course, there is no requirement whatever for the joint between the top-rail and the headrest tubes to be sealed. So, why would the skilled designers of seatframes think of turning to JP 5-123783 in the expectation of finding obviously relevant technology?

10. Loper and JP 5-123783 are merely examples of coined-lock-beading. Both references come from fields of endeavour that are widely separated from automotive seatframes. We can think of no reason why the designer of seatframes would obviously think of looking at either of them in the expectation of finding a helpful technology. And the PTO has not offered any reasons.

We never considered we were the first to think of coined-lock-beading, as a new technique, in itself. But clearly we are the first to have recognised coined-lock-beading as the answer to the difficulties of attaching a pair of headrest-mounting-tubes to the top-rail of an automotive seatframe, and we think we are entitled to a patent for that.

11. This application being now in all respects in order for allowance, we look forward to being notified to that effect.

Submitted by:



Anthony Asquith

Regn 32373

Agent for the Applicant

Enclo: (none)